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STUDY TITLE: "A Study of the Interface Problems Between the U. S. Army Operational Test and Evaluation Agency (OTEA) and the Army Material Development Community"

STUDY PROJECT GOALS:

- a. To identify the reasons for interface problems between OTEA and DARCOM as perceived at OTEA and at the headquarters and project manager levels of the latter.
- b. To evaluate the resultant impact on both organizations (i.e., OTEA and DARCOM).
- c. To make recommendations regarding resolution of these problems, when possible.

STUDY REPORT ABSTRACT:

The purpose of this study was to identify the reasons for interface problems between OTEA and DARCOM as perceived at OTEA and at the headquarters and project manager levels of the latter; to evaluate the resultant impact on both organizations and; to make recommendations regarding resolution of these problems, if possible.

The methodology employed consisted of a literature search into the history of Army operational testing and evaluation, and both structured and informal interviews with persons either currently or recently assigned to OTEA, Headquarters, DARCOM, or project management offices.

The study revealed that negative perceptions related to historical and situational (environmental) factors are the key contributors to the interface problems and that the situation is more acute at the working levels than at the management stratas of the three organizations (i.e., OTEA, Headquarters, DARCOM and the PMO's).

The author recommends the use of balanced in-house training programs, better distribution of the personnel resources of the Army Project Management Development Program, and increased opportunity for assigned personnel to attend the Program Management Course at the Defense Systems Management School--as approaches which may reduce or alleviate interface problems.

KEY WORDS:

Operational Testing
Army Reorganization
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WEAPON SYSTEMS OPERATIONAL TESTING

PROJECT MANAGEMENT

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DEFENSE SYSTEMS MANAGEMENT SCHOOL



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A STUDY OF THE INTERFACE PROBLEMS BETWEEN THE
U. S. ARMY OPERATIONAL TEST AND EVALUATION
AGENCY (OTEA) AND THE ARMY MATERIAL
DEVELOPMENT COMMUNITY

STUDY PROJECT REPORT
PMC 76-1

ROBERT E. THOMAS, JR.
MAJOR USA

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DEVELOPMENT COMMUNITY

STUDY PROJECT REPORT
INDIVIDUAL STUDY PROGRAM

DEFENSE SYSTEMS MANAGEMENT SCHOOL
PROGRAM MANAGEMENT COURSE
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by

ROBERT E. THOMAS, JR.
MAJOR USA

MAY 1976

STUDY PROJECT ADVISOR
MAJOR DONALD FUJII

This study project report represents the views and conclusions and recommendations of the author and does not necessarily reflect the official opinion of the Defense Systems Management School or the Department of Defense.

EXECUTIVE SUMMARY

The overall purpose of this project was to investigate the reasons for interface problems between the U. S. Army Operational Test and Evaluation Agency (OTEA) and the Army Material Development Community (AMDC), as represented by U. S. Army Material Development & Readiness Command (DARCOM) at the headquarters and project manager levels, and to ascertain if suggestions could be made to reduce or eliminate these difficulties. The author had noted the existence of significant OTEA-AMDC interface problems during a three year tenure with the former organization.

The methodology employed consisted of a literature search into the history of Army operational testing and evaluation, and both structured and informal interviews with persons either currently or recently assigned to OTEA, Headquarters, DARCOM, or project management offices.

The study revealed that negative perceptions related to historical and situational (environmental) factors are the key contributors to the interface problems and that the situation is more acute at the working levels than at the managerial layers of the three organizations (OTEA, Headquarters, DARCOM and the PMO's).

The author recommends the use of balanced in-house training programs, better distribution of the personnel resources in the Project Management Development Program, and increased opportunity for assigned personnel to attend the Program Management Course at the Defense Systems Management School (DSMS) -- as approaches which may reduce or alleviate the interface problems.

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SECTION I

INTRODUCTION

Purpose of the Study Project

In February 1973, the author, with a newly acquired masters degree in hand, was assigned to a utilization tour with a fledging new operating field element of the Army staff--OTEA--then located at Fort Belvoir, Virginia. The subsequent three years with that organization were most rewarding in terms of professional challenge and personal satisfaction. A feeling of accomplishment was felt by all personnel as the agency progressed from a young, struggling stepchild to a fully accepted and powerful member of the Army staff hierarchy.

Soon after being assigned to OTEA, it became evident to the writer that the agency generally interfaced with three organizational entities in the conduct of its business. They were the Army staff, the U. S. Army Training and Doctrine Command, and the Army Material Command (AMC). In the case of the latter, most of the contacts were at the headquarters and project management office levels. Additionally, it was quite noticeable that many of the relations with the AMC organization were conducted in a strained atmosphere. These relations continued, though to a lesser degree, throughout the author's three years at OTEA.

Thus, when the curriculum in the Program Management Course (PMC) at the DSMS afforded an opportunity to conduct research on a pertinent topic in the field of material acquisition, the author selected the paper's topic with the hope that a very real problem (at least to the Army) could be analyzed.

In light of the above reasons, the purpose of this study is to investigate the reasons for interface problems between OTEA and the Army Material Development Community (identified henceforth as AMDC) as represented by the Army Development and Readiness Command (DARCOM), which succeeded AMC, at the headquarters and project manager level, and to ascertain if suggestions can be made to alleviate these difficulties.

Goals

The goals of this study are:

1. To identify the reasons for interface problems between OTEA and DARCOM as perceived at OTEA and at the headquarters and project manager levels of the latter;
2. To evaluate the resultant impact on both organizations;
3. To make recommendations regarding resolution of the problems, when possible.

Scope and Limitations

This study effort included a literature research into the background and history of operational test and evaluation in the Army and

the conducting of a series of formal interviews with personnel assigned to OTEA, Headquarters, DARCOM and various project management offices (see Appendices A and B). Additionally, the interviews were supplemented with numerous discussions with members of Program Management Course 76-1. All persons who were interviewed were assured that their comments and opinions would be treated in a confidential manner.

SECTION II

OVERVIEW OF ARMY OPERATIONAL TESTING

Terminology

The following basic terms are used in this report and are defined as follows:

User Testing: A generic term encompassing Operational Testing (OT) and Force Development Testing and Experimentation (FDTE). (3)*

Joint User Testing: Testing in which the Army participates with one or more of the Services to evaluate systems or concepts having an interface with or requiring a test environment of another service. (3)

Operational Testing (OT): OT is that test and evaluation conducted to estimate the prospective system's military utility, operational effectiveness, and operational suitability (including compatibility; interoperability; reliability, availability, and maintainability (RAM); and logistic supportability; operational man (soldier)-machine interface and training requirements), and need for any modifications. In addition, OT provides information on organization, personnel requirements, doctrine, and tactics. Also it may provide data to support or verify operating instructions, publications, and handbooks. OT will be accomplished by operational and support personnel of the type and qualifications of those expected to use and maintain the system when deployed, and will be conducted in as realistic an operational environment as possible. (2)

*This notation will be used throughout the report in referencing documents listed in the Bibliography.

Development Testing (DT): DT is that test and evaluation conducted to demonstrate that the engineering design and development process is complete; to demonstrate that the design risks have been minimized; to demonstrate that the system will meet specifications; and to estimate the system's military utility when introduced. DT is planned, conducted, and monitored by the materiel developer and the results thereof are reported by that agency directly to the Army System Acquisition Review Council (ASARC) or In-Process Review (IPR). (2)

Force Development Testing and Experimentation: Tests, ranging from the small, highly instrumented, high resolution field experiment, to the large, less instrumented, controlled scenario, low resolution field test, (a) yield data which are evaluated largely by using subjective rather than analytical techniques, and (b) are conducted to evaluate new concepts of tactics, doctrine, organization and new items of materiel. (3)

Background.

The concept of sequential and separately conducted engineer tests and service (user) tests of Army materiel systems was originally established in 1924. Even though the identity, titles, and organizational structures of developers and users underwent many changes between 1924 and 1962, the basic concept of independent developer and user testing did not change. Increased test and evaluation lead time in the late 1950's caused considerable concern, and was attributed primarily to two factors: (1) developer (technical services) and user test duplication,

redundancy, and conflict; and (2) lack of valid operational (user) test methodology. These lead time problems and other considerations were closely associated with a major Army reorganization in 1962 which resulted in the consolidation of all Army test and evaluation under the developer, Army Materiel Command (AMC). In turn, the U. S. Army Test and Evaluation Command (TECOM) was established in 1962 under AMC to conduct all engineering and service (user) tests for Army materiel. (14)

During its first four years of operation TECOM was successful in consolidating facilities and reducing lead time in testing. However, there was a general recognition that material/engineering testing was being emphasized at the expense of operational considerations and testing. This situation led to a Department of the Army inquiry into its testing and evaluation program. This effort, undertaken in 1966, was labeled A Study of Army Test and Evaluation (SATE).

SATE revealed two important deficiencies of Army test and evaluation: (1) as a result of the 1962 reorganization there was no independent check or evaluation by the user, the U. S. Army Combat Developments Command (CDC); and (2) there was a lack of sufficient operational (user) test methodology available to enable the proper conduct of effective and meaningful service (user) tests. Because of SATE, in 1966, the Army Chief of Staff directed that TECOM continue to develop improved test methodology for the service (user) test; that CDC continue to be responsible for overall evaluation

of the military worth of Army materiel, and that CDC approve all TECOM service (user) test plans. Although SATE (1966) recognized the absence of user influence on Army test and evaluation, it did not recommend reorganization as a remedy. (14)

Army test and evaluation continued to receive a great deal of criticism in the late 1960's, as did other facets of the Department of Defense (DOD) materiel acquisition system. Events began to culminate, however, when the 1970 Blue Ribbon Defense Panel found that the DOD testing apparatus as a whole did not have an independent check or evaluation capability and that the military services were not conducting sufficient operational testing. The general consensus was that faulty requirements which conflicted with organization and doctrine would not be detected in the absence of an independent check or evaluation and would consequently result in the creation and production of costly but ineffective weapon systems. (14)

The panel's special Operation Test and Evaluation (OT&E) Group also concluded that "OT&E within the Services is done most effectively when OT&E organizations report directly to the Chief of the Service, representing both the developer and user, but organizationally independent of both. There are, however, considerable forces within the services which resist the independence of the OT&E organization." (8)

The overall panel report to the President was specific about what it believed to be a major flaw in the Army's approach to operational

testing and evaluation. It stated, "The basic problem with Army OT&E is that the developer, in effect, tests and evaluates the operational suitability of what he develops." (6) That is, the Army Materiel Command developed and produced materiel through its commodity commands - Tank and Automotive Command, for example - while testing and evaluating the materiel through its Test and Evaluation Command (TECOM).

Subsequent to the panel's recommendations, DOD began to revise its policies and structure in an effort to accommodate some of the recommendations. In an 11 February 1971 memorandum to the Services, then Deputy Secretary of Defense Packard wrote:

"Although each Service now has a somewhat different way of organizing for operational test and evaluation, it is apparent to me that this function can best be performed by an agency which is separate and distinct from the developing command and which reports the results of its test and evaluation efforts directly to the Chief of the Service. Moreover, within the Service headquarters staff, there needs to be an office with a clear OT&E identification to provide staff assistance directly to the Service Chief and to provide a headquarters focal point for the independent OT&E field agency Accordingly, each Service is requested to restructure its organization for OT&E along the lines specified above.

As a second step, I am establishing a Deputy Director for Test and Evaluation within ODDR&E with across the board responsibilities for OSD in test and evaluation matters. This office will review and approve test and evaluation plans prepared by the Service and will

provide an assessment of results obtained."
(as quoted in 9: Vol II, B-6)

While DOD was, internally, responding to the panel's report, Congress, which had also scrutinized the panel's deliberations and advice, increased the pressure on the services by linking appropriations to operational testing.

Specifically, the Armed Forces Appropriation Authorization Act for FY 1972 (PL 92-156) included Section 506 requiring:

Beginning with 1972, the Secretary of Defense shall submit to the Congress each calendar year, at the same time the President submits the Budget to the Congress, a written report regarding development and procurement scheduled for each weapon system for which fund authorization is required and for which any funds for procurement are requested in such budget. Beginning with the calendar year 1973, there shall be included in the report data on operational testing and evaluation for each such weapon system for which funds for procurement are requested.

Additionally, the section required that the reports specifically include "the results of all operational testing, or, if operational testing and evaluation has not been conducted, a statement of the reasons therefore, and the results of such other testing and evaluation as has been conducted." (9: Vol II, B-8)

The Army, in an effort to respond to OSD and Congressional criticism, reoriented its policies and procedures relating to operational testing and evaluation within its existing organizational structure. Specifically, the key Army regulation pertaining to test and evaluation

(AR 70-10, Test and Evaluation During Development and Acquisition of Material) was revised to include an Expanded Service Test (EST) as a replacement for its, allegedly, ineffective predecessor, The Service Test. The EST, as conceived, was to include a field exercise and more thorough operational (user) testing and was intended to be the pivotal point in Army test and evaluation, thereby providing the initial and only operational (user) test data input to the low rate production decision.

The Army's internal actions satisfied some critics, both external and internal. However, the desire for an independent operational test and evaluation agency within each of the services had already been iterated by Congressional and OSD spokesmen and the Army acceded in September 1972 by activating the U. S. Army Operational Test and Evaluation Agency (OTEA) as a field operating agency under the staff supervision of the Assistant Chief of Staff for Force Development (ACSFOR), Department of the Army. When the Army General Staff was reorganized in May 1974, OTEA became a field operating agency directly under the Chief of Staff of the Army.

Current Context.

In the current context, OTEA is the Army's focal point for user testing. OTEA supports the material acquisition process by exercising responsibility for all operational testing and supports the force development process by managing (i.e., overseeing) force development testing and experimentation and joint user testing.

OTEA conducts and evaluates operational testing accomplished on all major Army material systems (i.e., those which involve over \$50 million in research and development funds or over \$200 million in procurement dollars) and certain designated non-major systems. Additionally, OTEA is the Army point of contact with OSD, and is responsible for the overall Army management of OSD-directed joint testing programs. OTEA's management emphasis is to those OSD-directed joint tests where the Army is designated the lead service.

Role of the Interface Between OTEA and The Army Joint Material Development Community.

Stated simply, the role of the interface between OTEA and the Army Material Development Community (AMDC), as represented by the US Army Development and Readiness Command (DARCOM) (the successor to AMC) is to facilitate communications between these organizations. Further, because of OTEA's limited personnel resources and the broad scope of its mission, it is imperative that this interface be as efficient as possible, particularly between OTEA and the DARCOM Headquarters and Project Management Office levels.

Unfortunately, as the author has previously observed, these communication interfaces often appear to be strained as a result of perceptual factors held by personnel at both OTEA and DARCOM. The remainder of this report will thus be devoted to analyzing the reasons behind the factors which give rise to the interface problems between OTEA, DARCOM Headquarters and the project management offices.

SECTION III

AN ANALYSIS OF THE REASONS FOR INTERFACE PROBLEMS

General.

Opinions regarding the reasons for OTEA - Headquarters, DARCOM - PMO interface problems were solicited from personnel who were either currently or recently assigned to one of these three organizations. In addition, an effort was made to categorize the interviews between the "manager" and "worker" levels within each of the respective entities. This latter decision proved very beneficial in light of the wide divergence of opinion, regarding the respective subject, between these two levels. The remainder of this section of the report is presented in the form of summary analyses of the data obtained during the interviews.

OTEA.

Managerial level personnel at OTEA generally cited five reasons for OTEA - Army Materiel Development Community interface problems. They were:

- o Historical
- o Situational/environmental
- o OTEA adherence to the systems viewpoint
- o Tester biases

In the eyes of the OTEA managerial interviewees historical aspects appear to have a considerable impact on OTEA-AMDC relations. Put

bluntly, there is, from the OTEA managerial view, a tendency in the AMDC to regard the existence of OTEA as a "slap" at the competence and integrity of the AMDC to execute a good unbiased testing and evaluation program. Specifically, they are of the opinion that personnel, in the Material Development Community, feel that OTEA simply usurped the old Engineering Service Test, and reporting formerly performed by the TECOM Test Boards, and duplicated portions of the development test cycle. These views, from the OTEA manager's standpoint, are regarded as grossly inaccurate in light of the agency's systems approach to testing (which is discussed in the following paragraphs).

Situational/environmental reasons for interface problems were believed by OTEA managers to be derived from the role that OTEA is required by charter to perform in the material acquisition process, i.e., to make an independent evaluation of the military utility, operational effectiveness and operational suitability of the major and designated non-major systems in development, and to report directly to the Army Chief of Staff. PMO personnel have inferred that they feel that OTEA is "checking on them" and really cannot enjoy a very comfortable relationship with anyone who is cast in that role.

The third ingredient cited by the OTEA managerial staff as contributing to interface problems with the AMDC is OTEA's adherence to the "systems" viewpoint (as opposed to the developer's "subsystem"

focus). From their standpoint, the material developers focus on the hardware - technical aspects of testing with minimum regard for the soldier operator and for the non-hardware subsystems (e.g., training, logistics support). Operational testing, as executed by OTEA, on the other hand, is believed to direct equal attention to the relationships and roles of all the subsystems and how they impact on the military utility, operational effectiveness and operational suitability of the total system. This difference in perspective, or viewpoint, is seen as a key source of misunderstanding between OTEA and the AMDC.

The fourth item cited by OTEA managers as a hinderance to relations with DARCOM was "tester biases" within OTEA itself. The two specific biases cited were: overtesting and "finding something wrong". Overtesting refers to the tendency to conduct testing without regard to time or fiscal constraints or consideration of the principle of marginal returns as it affects testing (i.e., will the value derived from an additional increment of testing justify the additional costs incurred?). The "finding something wrong" bias alludes to the tendency to feel that an operational test is unsuccessful if it does not uncover some major system deficiency. Managers interviewed generally felt that this is a problem that is associated with new personnel whose own perspectives of operational testing are still being formulated. It is, however, viewed as a very real problem which the agency must continuously guard against.

The last item commonly cited by OTEA managers related to inconsistencies (i.e., the variation in attitudes toward OTEA) shown by people working in the PMO's. Specifically cited was the fact that PMO personnel at the managerial levels, are generally cooperative in their relationships with OTEA, but lower level personnel usually are not. This situation is perceived at OTEA as due to either a breakdown in the internal PMO education process or as a dichotomous situation wherein the PMO managerial levels are exhibiting a cooperative stance toward OTEA, but directing the working levels to proceed with caution in their communications with the operational testing community.

An analysis of the views of interviewees at the non-managerial levels indicated that some overall differences in opinion did exist from those of the managerial group in regard to their cognizance of the reasons for OTEA-AMDC interface problems. Key areas cited were: The PMO's disdain for non-advocates of their systems; failure to understand the OT process; attempts by PM's to influence OTEA; and TECOM's position in the AMDC structure.

The first of the above items, disdain for non-advocates of their systems, was frequently mentioned by OTEA working level assignees as an obvious element in the attitude of PMO employees in their communications with OTEA. This characteristic was cited as most prevalent at the lower working levels within the PMOs. Interviewees expressed concern that this attitude significantly hinders communications between

the OT and Material Development Community to the detriment of the Army as a whole. In a positive vein, however, there was a mutual feeling that this situation is improving as new personnel replace those who were assigned to the PMO during the OTEA activation era.

The second item, failure to understand the operational testing process, was regarded by most respondents as probably the key deficiency attributing to OTEA-AMDC interface problems. Factors cited were the lack of appreciation of the OT focus on the systems viewpoint; failure to understand the generally lower confidence levels achievable through OT as opposed to precise developmental testing; seeming inability to appreciate the significance of the timing factor in accomplishing a good operational test and evaluation (i.e., "They always want to give OT that time left over after a very precise, meticulous development test, and then expect a thorough report of testing immediately afterwards").

Attempts by PM's to influence OTEA were noted by some respondents as having a high potential for impeding OTEA-AMDC relationships. Some persons related overt incidences when these types of attempts were allegedly made, but most admitted that such efforts are usually subtle. Personnel interviewed indicated that they expected the AMDC representatives to strongly respect their position as independent testers and evaluators.

The last item, TECOM's position in the AMDC structure, was regarded by some interviewees as one of the reasons for OTEA interface problems with the AMDC. Put simply, most interviewees expressed a

feeling that TECOM and its independent evaluation element, Army Material Systems Analysis Agency (AMSAA), cannot be regarded as truly independent as long as they remain a part of DARCOM. Thus, they believe that OTEA cannot conduct its relations with TECOM as if it were a full member of the independent testing community.

Headquarters, DARCOM

Interviews conducted at Headquarters, DARCOM provided some interesting perspectives from a policy level viewpoint on the OTEA-AMDC interface problem. Interestingly, their comments somewhat approximated the responses of OTEA managerial interviewees. Their answers indicated the following reasons as the major contributors to the interface dilemma:

- o Historical
- o Situational
- o Fiscal

The historical conditions cited as contributing to interface problems generally addressed the circumstances and conflicts which were rooted in the OTEA gestation period. Particular items/events cited included: The AMDC's loss of control over almost all aspects of operational testing; the general feeling that Headquarters, Department of the Army succumbed to political pressure and never gave the AMDC a chance to "prove out" the concept of expanded service testing; the failure of OSD, the Army

Secretariat and OTEA to appreciate the cost impact of incorporating OT into ongoing programs; OTEA's paranoia with regard to its independence and the general lack of testing expertise within OTEA.

In addition to the above historical factors, the personnel who were interviewed cited current situational factors which also detract from OTEA-AMDC relationships. Key among these were: inconsistent and sometimes conflicting guidance, pertaining to OT, from the OSD level; the continuing assignment to OTEA of personnel with no prior experience in Army testing; the general belief that OTEA is not (and probably can never be) truly independent.

The last of the most frequently cited areas was fiscal considerations. In short, respondents were of the general conviction that OTEA still has a "long way to go" in learning to tailor its testing philosophy to the relatively small amount of funds available in the current environment. Specifically, in the opinion of interviewees, they must be more willing to conduct combined testing, cross utilize the results of developmental and contractor testing, and change their negative attitude toward the employment of simulations.

Project Manager Organizations.

Interviewees who were either then (at the time of interview) or recently assigned to project manager organizations, generally cited historical and/or situational/environmental and fiscal bases for their

opinions of reasons for conflict between OTEA and the Army Material Development Community. Analysis of the results of the interviews suggests that a wide gulf exists between the views of the higher level PM personnel (i.e., the project managers/deputies) and their subordinates in the PMO's) in regard to their views of the extent and nature of the subject interface problem.

Historical reasons often cited by higher level project management as contributing to the interface problem included the PM's perception that OTEA's existence was (is) a symbol of general distrust (of the PM) by Congress, OSD, and Headquarters, Department of the Army. In addition, however, most of the project managers also indicted the actions of the AMDC itself as a decisive factor in the establishment of OTEA. Reasons mentioned included: the failure (of the AMDC) to press the user for effective operational test criteria against which developing systems could have been evaluated, and excessive advocacy on the part of material developers.

Situational factors cited by PM's (and deputy PM's) alluded to an unrealistic OTEA concept of the scope of an effective operational test ("They want to simulate a small war".) and the need to coordinate with two separate testing organizations (OTEA and TECOM). Most of the interviewees expressed a wish that TECOM and OTEA could somehow be combined.

The third area most frequently cited by project and deputy project managers was fiscal, or cost, implications of OTEA. Their comments generally expressed a desire that OTEA could be funded to completely

supplement the real increases in the PM's testing budget which are associated with operational testing.

The responses elicited from interviewees assigned at the working levels within the PMO's generally mentioned the situational and fiscal aspects as the key contributors to the interface problem. Comments regarding the former included: a general recognition of the somewhat dichotomous roles of OTEA and the Material Development Community; a desire to combine OTEA and TECOM; the belief that OTEA has too much power in the Army hierarchy, and a conviction that there must be a better overall approach to OT than that now pursued by the Army (several respondents suggested that a joint TRADOC and U. S. Army Forces Command (FORSCOM) approach, to operational testing, without OTEA, would yield better results). Other comments generally dealt with what were, in the opinion of interviewees, believed to be OTEA deficiencies which aggravated its (i.e., OTEA's) relationship with the material developer. These perceived shortcomings were: a lack of appreciation of the complexity of the PM-contractor interface, and the potentially large financial and contractual impact of even small design changes particularly in the latter stages of development; an overall low level of technical expertise within OTEA regarding the systems tested; insufficient TRADOC/FORSCOM support during field testing - which has, in effect, forced OTEA to defend some rather poorly executed tests, and too many OTEA personnel apparently authorized as agency spokesmen.

Positive Viewpoints.

Because the subject matter of the foregoing interviews was focused at identifying the reasons for the existence of problems in the OTEA-AMDC interface, most of the comments solicited by the interviews were of a negative nature. There were, however, positive comments which were repeatedly encountered and bear mentioning.

The first of these was a consensus -- which was expressed by most Headquarters, DARCOM and PM interviewees in higher levels of management, regarding the need for an independent operational test organization such as OTEA. Most of the respondents approved of the idea of an independent operational test agency citing it as an asset in obtaining both political and economic support for their respective systems (even though in practice they would prefer a merger of OTEA and TECOM into a single independent testing agency).

A second development frequently cited was the positive turn in OTEA - PMO working relationships which has resulted from test integration working groups. (TIWGs). Interviewees at OTEA, HQ, DARCOM, and at the PMO's seemed to welcome this change and perceived it as a sign of maturation between the OT and Material Development Communities.

SECTION IV
SYNTHESIS AND EVALUATION

There appears to be a general recognition within OTEA, Headquarters, DARCOM, and the project management offices that considerable interface problems still exist between OTEA and the AMDC. Both parties acknowledge that these problems have historical and situational bases which are not easily rectifiable.

At the managerial levels, where personnel are more familiar with the roles their organizations fulfill in the Army material acquisition cycle, there is considerable optimism regarding present trends in OTEA-AMDC relations and the possibility of further reducing current interface problems. In contrast, the perceptions of personnel at the working levels are still characterized by suspicion and parochialism.

SECTION V

CONCLUSIONS AND RECOMMENDATIONS

Conclusions.

Current interface problems between OTEA and the Army Material Development Community are due primarily to negative perceptions of one another held by personnel at the working levels of these two entities. These negative ideas are rooted in the conflict which surrounded the genesis of OTEA and are perpetuated by the differing roles which OTEA and the AMDC organizations are assigned in the material acquisition process.

Recommendations.

There appears to be a definite need at OTEA and DARCOM, particularly at the project manager office level of the latter, to insure that working-level personnel are better educated in regard to the overall Army material acquisition process and the roles of their respective organizations. Steps for implementing this recommendation include:

- Establishing in-house training classes, where none are currently held, with the goal of broadening the general knowledge of working-level personnel in regard to the material acquisition process and their roles in it.
- Expanding the scope of existing in-house training classes to provide a better understanding of the role of one's own organization in the comprehensive Army material acquisition process.

- Insuring that the viewpoints of the "other side of the house" i.e., operational testing or material development, are amply presented at these training sessions. (e.g., inviting a speaker from OTEA to make a presentation at PMO training sessions and vice versa.)

- Monitoring the assignment of new personnel to insure that both OTEA and the PMOs are receiving a fair share of personnel who are participating in the Army Project Management Development Program career field.

- Insuring that assigned personnel, both civilian and military, are provided an opportunity to attend one of the Program Management Courses offered by the Defense Systems Management School, if they so desire.

APPENDIX A

DARCOM - PROJECT MANAGER QUESTIONNAIRE

1. Job - position/how long held? Other jobs in material organizations?
2. What is your opinion regarding the need for OTEA?
3. Was the DT expanded service test procedure, which preceeded the current OTEA directed approach to OT, better?
4. Has your project/office interfaced with OTEA? If so, to what extent and how frequently?
5. What element in your PMO normally deals with OTEA?
6. What level in OTEA do they normally interface with?
7. Have you, personally, had any business dealings with OTEA? If so, what element do you normally communicate with and how frequently?
8. What have been your key periods of interface with OTEA?
9. Have you found that OTEA's organization structure hindered your relations with it?
10. Is OTEA large enough to handle its responsibilities?
11. How would you characterize your relationship with OTEA?
12. Have any general interface type problems arisen?
13. Have OTEA's demands upon your PM organization been reasonable?
14. Has OTEA been responsive to your requests?
15. In your opinion, does OTEA "pay its own way" or have you had to divert resources to support their testing?
16. Has OTEA had any impact on the way your project is managed? e.g., cost, scheduling, additional manpower?

17. Has OTEA caused any problems between you and your major command or higher headquarters?
18. Has OTEA affected or impacted your relationship with contractors?
19. How would you characterize OTEA/PM/HQ, DARCOM communications? Is there a communication gap?
(If answer to 19 is positive)
20. What do you suggest to overcome?
 - LNO's?
 - More frequent meetings?
 - More combined testing?
 - Other?
21. Do you feel that OTEA has too much power in the Army hierarchy?

APPENDIX B
OTEA QUESTIONNAIRE

1. Job/position/how long/previous assignments in material acquisition?
2. Which PMO's have you interfaced with? If so, to what extent?
3. How would you characterize your relationships with each of these PMO's?
4. What element in the PMO's did you normally interact with?
5. What have been your key periods of interface?
6. Have you found that the structure of the various PMO's hindered your relationships with them?
7. Have any significant "interface type" problems arisen?
8. Have the PMO's demands on OTEA been reasonable?
9. Have the PMO's been responsive to OTEA's requests?
10. How would you characterize OTEA/PM communications? Is there a communications gap?
11. Do OTEA/PM communications need to be facilitated? If so, how?
 - LNO's?
 - More frequent meetings?
 - More combined testing?
 - Other?
12. Have the PMO's aired any complaints to you regarding what they visualize as interface problems with OTEA?
13. To what extent, if any, have you been required to work directly with Headquarters, DARCOM? What element(s) do you normally work with?
14. How would you characterize your relationship(s) with HQ, DARCOM?

15. Have any significant interface type problems arisen?
16. Has HQ, DARCOM been responsive to OTEA's requests?
17. Has HQ, DARCOM interfered with your relationships with the PMO's?
18. Has any element of HQ, DARCOM expressed to you what they regard as interface problems with OTEA?
19. Do you feel that OTEA has too much power in the Army hierarchy?

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